

IV. REMARKS

The Examiner's time and helpful comments during the interview of March 24, 2005 are acknowledged with appreciation.

Status of the Claims

Claims 1-3, 6-15, 17-20, 23-31, 33-41, and 44 are amended and claims 4-5, 16, 21-22, 32, and 42-43 are canceled. Claims 1-3, 6-15, 17-20, 23-31, 33-41, and 44 are presented for further consideration.

Summary of the Office Action

Claims 1-3, 6-15, 17-20, 23-31, 33-41, and 44 stand rejected under 35USC102(e) on the basis of the cited reference Stephens, U.S. Patent No. 5,331,989. Claims 4-5, 16, 21-22, 32, and 42-43 stand rejected under 35USC103(a) based on the cited reference Stephens. The Examiner is respectfully requested to reconsider her rejection in view of the above amendments and the following remarks.

Applicant submits that the above amendments remove the Examiner's objections with respect to antecedent basis and lack of positive recitation in the claims.

Discussion of the Cited Reference

The Examiner relies on the reference Stephens to support the rejection based on anticipation and as support for the rejection based on obviousness as well.

The reference Stephens describes a walking aid having a unique shaft 11 and associated handgrip 17. The shaft is designed with a gradual forward curve to reduce the impact force on the user

while walking, see column 3, lines 20-35. There is therefore no discernible longitudinal axis of shaft 11. The examiner likens the shaft 11 to the attachment post of the subject invention. This is not the case as the attachment post, as described in the claims, is for connecting to an associated appliance or tool. The only thing to which the shaft 11 is attached is a resilient foot member 30 that provides a resilient interface with the surface upon which the user is walking. There is no coupling attached to the bottom end of the shaft 11, only the foot member 30. This is not the same as the coupling, according to claims 15 and 31 of this application. The following language of Stephens, at column 5, lines 28-30 support this position:

"In the preferred embodiment of this invention, the walking aid 1 or 2 is provided as a single, integral unit which cannot be disassembled."

In addition the Examiner cites the heel-engaging portion 27 of the handgrip 17. The purpose of the portion 27 is described in the reference Stephens, as follows:

"The heel-engaging portion 27 of the handgrip 17 is a broad upper portion of the handgrip which is contoured in a somewhat concave shape to receive and seat the heel of the hand. The heel-engaging portion may have an inclined back 26 which supports the wrist in an ergonomic position. The entire handgrip is angled approximately 45.degree. from the vertical axis in order to align the wrist and hand relative to the arm and the rest of the body and to most evenly distribute the impact forces and weight of the body across the hands and wrist joints."

The handgrip 17, including portion 27, are designed to direct the forces of the walking aid to the hand and wrist. This is not the case in the helical handle system of the subject invention where the forces are directed to various surfaces of engagement on the forearm. The seat portion of the handle of the subject

application is designed to support the wrist only from the bottom and allows a flexing of the wrist from side to side as well as up and down. The portion 27 to which the Examiner refers is formed as a concave sleeve designed to hold the wrist in alignment with the shaft 11. Motion of the wrist is therefore restricted and limited in the reference Stephens.

Stephens also describes an alternate embodiment, according to the following:

"For those who require the additional support and control of a "Canadian style" crutch, another embodiment of the invention is a crutch 1 which has an elongated cuff 51, as illustrated in FIGS. 1, 1A, and 2 through 5. The elongated cuff has a lower forearm support portion 53 which is joined to the rearward end of the handgrip 17. The lower forearm support portion is inclined upwardly from the inclined back 26 of the heel-engaging portion 27 of the handgrip 17.

The lower forearm support portion 53 has an outer wall 57, a rear wall 59 and an inner wall 55 which form a lower support channel which defines an opening for forward movement of the user's hand and lower forearm, as can be seen in FIGS. 1 and 1A, while the upper forearm is restrained by an upper forearm engaging portion 65 of the cuff. The lower forearm channel may also have an edge or shelf 61 formed on the top of the rear wall 59 so that when the user needs to stand and still have his hand free, he may lean on the crutch with the back of his forearm without gripping the handgrip."

The Examiner has characterized the elongated cuff 51, in particular the upper forearm engaging portion 65, as follows:

"a brace 65 constructed substantially in the form of a helix...."

Applicant submits that this characterization is not supported by the description or figures of the cited reference. The basic concept of Stephens involves the heel engaging portion 27, which substantially restrains the wrist to direct the forces from the

curved shaft 11 to the wrist. To accommodate a user's desire for additional support, an elongated cuff 51 is provided which is similar in function to the prior cuff patents cited in the background section of this application. In the latter embodiment of Stevens a lower forearm channel is formed between the upstanding wall 59 and the opposite wall 57 to restrain the lower forearm. Similarly, the upper forearm is restrained by the upper portion 65 of the elongated cuff 51. This describes a structure that operates as a dual cuff handle support and does not operate in the manner of the subject device. There is nothing either in the drawings or the description that supports this structure as being helical in form, as required by the claims of this application.

Such cuff type supporting handle structures, as described in the background of this application and the reference Stephens, generally provide reaction forces to the surfaces of the forearm or wrist substantially in a single transverse plane. The transmission of these forces is anticipated by the restraining function of the cuffs of the cited reference Stephen. This is understandable since the forces of a single purpose walking aid will have a predictable pattern. The handle support of this application is designed for distributing forces generated by many different motions, for example, sweeping, mopping, spraying, or painting. The devices of the prior art cannot accommodate the assortment of transmitted forces, as they are designed to receive a specific force, i.e. upward from shaft 11 of the reference Stephens.

As was demonstrated during the recent interview, the supporting surfaces of the device of this application are engaged by the movement of the wrist and arm as it reacts to the specific force

being applied to the attachment post during operation of an attached device. These forces are distributed along a helical path from the seat to the distal end of the brace. If one imagines a series of parallel planes transverse to the longitudinal axis of the brace extending from the grip rearward, each plane will intersect with the seat or the brace in only one location. This is unlike the cuff or channel areas, described in Stevens, where the intersection of such a plane with the cuff will form an arc. With a cuff, it is therefore possible to exert force on the wrist or forearm in different directions (up, down, left, or right) around the arc of the intersecting plane. With the subject invention, it is not possible to exert forces on the forearm or wrist from any single plane in more than one direction. This is a result of the nature of the helical structure of this invention. As it forms a ribbon-like spiral, progressing from front to rear, it does not have any opposing structure in the same transverse plane. Applicant has amended the claims of this application to further describe this effect as provided by the helix shaped brace. It is the helical nature of the brace that allows the flexible operation of this device in many different applications.

This particular structure provides for a number of important functional characteristics, which are not present and impossible to achieve in the Stevens walking aid, as follows:

- a) Because of the helical nature of the brace, the wrist is free to flex both around the grip and up and down. This flexing, in conjunction with the geometry of the seat and the brace, allows different sized forearms to be "locked into" the brace section, reducing play and allowing more control over the implement or tool that is being used.

- b) It allows one size of the subject invention to be comfortable on and function well for a variety of sizes of forearm.
- c) It makes it easy to grasp the grip and engage the brace with the forearm.
- d) It results in the entire device falling off the arm if the grip is released, an important safety feature.

The Issue of Anticipation

An anticipation analysis requires a positive answer to the question of whether the walking aid of Stephens would infringe the claims of this application, if it were later.

Claim 1 of this application is directed to a device having the following features:

"a substantially flat, planar, seat portion fixed to said grip and extending rearward therefrom in a plane transverse to said second axis; and

a brace constructed substantially in the form of a helix, said helix circumscribing an open space to accommodate the arm of the user, said brace fixed to said seat and extending rearward therefrom, and

wherein said brace and said seat provide individual supporting surfaces for exerting a force on the arm in any direction about the arm, and wherein each of such forces exerted in a particular direction by said individual supporting surfaces is in a separate plane oriented substantially transverse to a longitudinal axis of the brace and said transverse planes are displaced longitudinally on said brace and said seat from forward end to rearward end."

Claims 18 and 33 are directed to devices having the following features:

"a brace constructed substantially in the form of a helix, said helix circumscribing an open space to accommodate the arm of the user, said brace fixed to said grip and extending rearward therefrom, and

wherein said helix provides individual supporting surfaces for exerting a force on the arm in any direction about the arm, and wherein each of such forces exerted in a particular direction by said individual supporting surfaces is in a separate plane oriented substantially transverse to a longitudinal axis of the brace and said transverse planes are displaced longitudinally on said helix from forward end to rearward end."

Since the above claimed features are not present in the walking aid of the reference Stephen, there can be no infringement of the subject claims. Therefore the teaching of Stephens does not support the rejection based on anticipation with respect to any of the claims.

These arguments apply equally to the rejected dependent claims.

The Issue of Obviousness

The claims of this application that stand rejected under 35USC103 have been canceled from the application. Therefore the issues raised with respect to obviousness are now moot.

The Reference Zwick

During the interview of March 24, 2005, the Examiner introduced the reference Zwick, U.S. Patent No. 4,836,190 and this reference was discussed. This reference describes a device for use in surgery for lifting or restraining organs to provide an open field for the performance of a surgical procedure. This device has an elongated handle 14 to which is attached a blade 12 extending downward for insertion into an open operational incision. A helical segment extends rearward from the handle 14

to engage the upper surface of the arm (see column 4, line 42-49).

Similar to the cuff patents, this configuration anticipates a specific force application downward on the upper part of the arm as the wrist lifts the handle 14. There is no provision for providing a force on the side or the bottom of the arm. The purpose of the "helical" segment of Zwick is to extend the overall lever arm of the device and to allow a vertical lifting force to be applied by the arm (see column 4, line 67 through column 5, line 12. In addition, the specific design of the helical section is such that it acts much like a cuff over the top of the arm. Therefore, it is not apply forces as described in the claims of the subject application.

It is also observed that handle 14 is not the equivalent of either the attachment post, the grip, or the seat portion of the subject invention. There is only one element connected to the helical segment. That element is a straight piece with a longitudinal axis that is roughly parallel to the axis of the arm. As a result, the wrist must be held in an extended position, which is not efficient or ergonomic. In the case of the subject application, the axis of the grip is transverse to the axis of the forearm, allowing a more comfortable, ergonomic and efficient grasping of the handle and application of force on the implement.

For these reasons, although the reference Zwick has not been specifically applied, Applicant submits that it fails to support a rejection of the claims of this application based either on anticipation or obviousness.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly

novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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